

REMARKS

Claims 1-26 are pending in the application. Claims 1, 9, 17 and 22 are independent. Claims 1 and 2 have been allowed, claims 3-13, 15 and 17-26 have been rejected. Claims 7-8, 14 and 16 have been objected to. Claims 3-9, 13-17 and 19-26 have been amended. Claims 10, 11 and 12 have been canceled. It is believed that the remarks presented herein below address each of the Examiner's rejections and objections of the claims.

Information Disclosure Statement

In the present application, there are three references cited within the text of the specification. Specifically, in paragraph [0008], *Optimal Binary Sequence for Spread Spectrum Multiplexing* – last reference listed on page 4 of the IDS, in paragraph [0010], *Understanding GPS Principles and Applications* – 8th reference listed on page 2 of the IDS, and in paragraph [0012], *Acquisition of Pseudonoise Signals by Sequential Estimation* – 10th reference listed on page 2 of the IDS.

As each of these references is listed in the originally submitted IDS, and evident in the copied pages returned with the present Office Action which further evidence Examiner's initials in the adjacent leftmost column, there is believed to be no issue of concern or improper reference listing.

Drawings

Applicant has amended the drawings as requested by Examiner. Specifically, lines **362** and **364** in FIG. 3 between the load logic **202** and shift registers **304** and **306** have been amended to provide flow arrows in the proper orientation as is discussed in paragraph [0048]. In addition, Applicant has amended the flow diagram of FIG. 6 such that reference "**606**" is now shown and tied to the decision regarding the received chip being a "1" or a "0" as discussed in paragraph [0072]. Respectfully, Applicant requests that Examiner's objection be withdrawn.

Replacement pages with proper labeling in the top right margin are attached to this response. No new matter has been added by these amendments.

Specification

Applicant has amended paragraphs [0061], [0065] and [0066] to correct the issues objected to by Examiner. Specifically, in paragraph [0061], in the first line, "**305, 306**" now reads as "**305, 307.**" With respect to paragraphs [0065] and [0066] the examiner has objected to the use of ":@" rather than "=". These equations were originally generated using MathCad. It is generally understood and appreciated in the art that ":@" is used to indicate the declaration of an assignment of values. Moreover, Applicant respectfully asserts that those skilled in the art would not be confused or otherwise misled by the notation of ":@", however, in light of Examiner's request, Applicant has amended these paragraphs, as well as claim 6 to remove

the “:” portion of the notation. Respectfully, Applicant requests that Examiner’s objection be withdrawn.

Claim Objections

The Examiner has provided a detailed listing of informalities regarding claims 4, 6-9, 11 13-17, 19, 22 and 24. Applicant appreciated Examiner’s comments and has acted to amend the claims as so indicated.

Claim Rejection – 35 U.S.C. § 112

The Examiner has rejected claims 3-6, 10-12 and 17-26 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

With respect to claims 3, 10, 19 and 24 the Examiner asserts that “N” is undefined. Applicant respectfully disagrees and traverses this rejection. As the claims are read in light of the specification, and “N” is used and defined therein,

Respectfully, Applicant notes that “N” is indeed used and defined within the context of the detailed description, such as for example in paragraph **[0046]**, third sentence. “By way of example, where the correct Gold code sequence may be represented as a value stored in a number of shift register stages (“N”), load logic **202** loads 2^N parallel Gold code generators **206** with bits derived from the first *N* received chips.” As the claims are read in light of the specification, Applicant responds that “N” as used in the claims is fully supported. However, Applicant has amended claims 3, 19 and 24 so as to clarify within each presented claim the definition of “N” in line with that found in the detailed description, such as for example paragraph **[0046]**. As is further noted below, Applicant has incorporated the elements of claims 10-12 into amended claim 9, and in so doing has also addressed the issues herein raised by the Examiner.

Accordingly Applicant respectfully requests withdrawal of the rejection of claims 3, 19, and 24. Claims 4-6 depend from claim 3, claim 20 depends from claim 19 and claim 25 depends from claim 24. As the parent claim for each of these dependent claims has been amended, any issues regarding uncertainty as to the definition of “N” are believed to be resolved for the dependent claims as well as their parent claims.

The Examiner has noted an issue of lacking antecedent basis for the terms “the best correlated PN code generator” as used in claims 17, 21, 22 and 26. Applicant has amended claims 17 and 22 to resolve this issue. As claim 21 depends from claim 17 and claim 26 depends from claim 22, Applicant respectfully request withdrawal of this rejection in light of the amendments to correct antecedent basis for “best correlated PN code generator.”

The Examiner has noted an issue of lacking antecedent basis for the terms "the value pre-loaded" in claims 20 and 25. Applicant has amended claims 20 and 25 to resolve this issue, and as such respectfully requests withdrawal of this rejection.

Claim Rejection – 35 U.S.C. § 102

Claims 9, 13, 17, 21, 22 and 26 are rejected under 35 U.S.C. §102(b) on the basis of being anticipated by US Patent Application Publication No. 2002/0015437 to Li et al., herein after "Li." Applicant respectfully disagrees and traverses this rejection.

With respect to Examiner's §102 rejection, respectfully, to anticipate a claim, Li must teach each and every element of the claim, and **"the identical invention must be shown in as complete detail as contained in the ... claim."** MPEP 2131 citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 2 USPQ2d 1051 (Fed. Cir. 1987) and *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913 (Fed. Cir. 1989) (emphasis added).

Applicant respectfully submits that many differences exist in the claimed elements between Li and Applicant's claimed invention such that Li can not be said to anticipate Applicant's invention.

In light of Examiner's comment that claim 12 would be allowable if the rejections under §112 were resolved, Applicant has amended claim 9 to now include the elements of dependent claims 10, 11 and 12. Claim 9 now recites:

9. A receiver comprising:
 - a plurality of Gold code generators operable substantially in parallel, each Gold code generator including a first shift register having N stages, and a second shift register having N stages, wherein N is the number of shift register stages to hold a Gold code sequence as a value;
 - a selector for selecting a correlated generator from said plurality of Gold code generators to use for decoding of received chips;
 - a pre-loader coupled to the plurality of Gold code generators for pre-loading the first and second shift registers in each generator prior to operating the plurality of Gold code generators; and
 - feedback logic, responsive to the pre-loader and associated with each generator, to selectively couple an output of each generator to an input of said each generator.

As claim 12 was viewed by Examiner to be allowable, as the rewritten form of claim 9 now incorporates those allowable elements of claim 12, claim 9 must therefore not be anticipated by Li, as Li does not teach each and every element of the claim. Accordingly withdrawal of the rejection and allowance of claim 9 is respectfully requested.

Claims 10, 11 and 12 have been canceled as they have been incorporated into claim 9, and are therefore moot. Claims 13-16 depend directly or indirectly from claim 9 and therefore enjoy the same lack of anticipation. Accordingly withdrawal and allowance of claims 13-16 is respectfully requested.

Applicant has also amended claim 17. Claim 17 now recites:

17. A method operable in a digital communication receiver, the method comprising:
receiving digitally encoded information from a communication medium wherein a PN code is used to spread the information over available communication bandwidth of the communication medium;
operating a plurality of PN code generators substantially in parallel with one another to acquire a correct PN code sequence from the received information, ***the correct PN code determined by a best correlated PN generator, wherein each PN code generator includes a first shift register having N stages, and a second shift register having N stages, wherein N is the number of shift register stages to hold a PN code sequence as a value***; and
decoding the received information using the best correlated PN code generator.

Li does not anticipate Applicant's method as Li fails to show or suggest that each generator comprises a first shift register having N stages and a second shift register having N stages. Li clearly fails to teach each and every element of the claim as "**the identical invention must be shown in as complete detail as contained in the ... claim.**" *Id.* Though other differences exist as well, the lack of any one element is such that Li can not be said to anticipate Applicant's invention as set forth in claim 17. Withdrawal and allowance of claim 17 is therefore requested.

Claim 21, which depends from claim 17 was also rejected under §102(b). As claim 17 is not anticipated by Li, neither is claim 21. Withdrawal of the rejection is respectfully requested.

Independent claim 22 is presented in "means for" terminology. As per MPEP 2106, "[w]here means plus function language is used to define the characteristics of a machine or manufacture invention, such language must be interpreted to read on only the structures or materials disclosed in the specification and, "equivalents thereof," that correspond to the recited function."

Claim 22 now in amended form recites:

22. An apparatus operable in a digital communication receiver, the apparatus comprising:
receiving means for receiving digitally encoded information from a communication medium wherein a PN code is used to spread the information over available communication bandwidth of the communication medium;
code synchronizer means for operating a plurality of PN code generators substantially in parallel with one another to acquire a correct PN code sequence from the received information, ***the correct PN code determined by a best correlated PN generator, wherein each PN code generator includes a first shift register having N stages, and a second shift register having N stages, wherein N is the number of shift register stages to hold a PN code sequence as a value***; and
means for decoding the received information using the best correlated PN code generator.

As noted above Li does not teach or suggest first and second shift registers each having N stages. With respect to Applicant's disclosure as reviewed to identify the corresponding structures for the means for elements, Li fails to teach or suggest such equivalent elements. Moreover, Li therefore again fails to teach each and every element of claim 22 as "**the identical invention must be shown in as complete detail as contained in the ... claim.**" *Id.* And clearly it is not.

Claim 26 which depends from claim 22 was also rejected under §102(b). As claim 22 is not anticipated by Li, neither is claim 26. Withdrawal of the rejection of claims 22 and 26 is respectfully requested.

Claim Rejection – 35 U.S.C. § 103

Claims 10-11, 15, 18-20 and 23-25 are rejected under 35 U.S.C. §103(a), as being unpatentable over Li in view of US Patent 6,542,478 to Park. Applicant respectfully disagrees with and traverses this rejection.

The standard for making an obviousness rejection is currently set forth in MPEP 706.02(j):

To establish a *prima facie* case of obviousness, three basic criteria must be met. **First**, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. **Second**, there must be a reasonable expectation of success. **Finally**, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The **teaching or suggestion** to make the claimed combination **and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure**. (emphasis and formatting added) MPEP § 2143, *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a **convincing line of reasoning** as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). (emphasis added). See also, *KSR International Co. v. Teleflex Inc.*, No. 04-1350, 550 U.S. ____ (2007).

Therefore, if the above-identified criteria are not met, then the cited reference(s) fails to render obvious the claimed invention and, thus, the claimed invention is distinguishable over the cited reference(s). Respectfully, the November 28, 2007 Office Action has failed to meet this burden.

Moreover, the Examiner must show that some reason to combine the elements with some rational underpinning that would lead an individual of ordinary skill in the art to combine the relevant teachings of the references. *KSR International Co. v. Teleflex Inc.*, No. 04-1350,

550 U.S. ____ (2007); *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988). Therefore, a combination of relevant teachings alone is insufficient grounds to establish obviousness, absent some reason for one of ordinary skill in the art to do so. *Fine* at 1075.

As noted above, claim 9 has been amended to incorporate the elements of claim 12 which Examiner has indicated would be allowable. As such, the issues of anticipation and obviousness as applied to the remaining dependent claims of claim 9 are effectively moot.

It is also noted that with respect to the rejection of dependent claims on obviousness grounds when independent claims are rejected on grounds other than obviousness, such rejection is improper. "Dependent claims are nonobvious under section 103 if the independent claims from which they depend are nonobvious." *In re Fine*, 837 F.2d 1071, 1076, 5 USPQ2d 1596 (Fed. Cir. 1988), citing *Hartness Int'l, Inc. v. Simplimatic Eng'g Co.*, 819 F.2d 1100, 1108, 2 USPQ2d 1826, 1831 (Fed.Cir. 1987); *In re Abele*, 684 F.2d 902, 910, 214 USPQ 682, 689 (CCPA 1982); *see also In re Sernaker*, 702 F.2d 989, 991, 217 USPQ 1, 3 (Fed.Cir. 1983).

Despite this, and adopting for the moment that dependent claims 18-20 should be argued with respect to claim 17 and dependent claims 23-25 should be argued with respect to claim 22, Applicant respectfully asserts that claims 17 and 22 are not obvious in light of Li and Park, and elements presented in the respective dependent claims do not spontaneously give rise to a finding of obviousness.

With respect to independent claims 17 and 22 and their respective dependent claim sets, it is already noted that Li fails to teach or suggest the first and second N bit shift registers. Moreover, Applicant discloses a receiver utilizing sequential estimation, wherein the signal, as received directly, is used by the receiver to decompose the spreading code into two Gold code registers and determine which pair of registers contains the correct combination of contents – e.g., "the correct PN code determined by a best correlated PN generator." See claims 17 and 22.

There are 2^N possible dual-register combinations of an N maximal length sequence, so all combinations have to be tested. But the registers do not contain any a-priori knowledge of the code or the received data, and they turn into generators only after being loaded with bits (e.g., chips) that are collected directly from the signal. Consequently, Applicant's invention does not require that the code be stored in the receiver and correlated with the received signal. Rather, the code can be determined using the first N bits received at any point in the signal sequence. This advantageously allows very rapid code acquisition as the first N bits are received in but a few milliseconds.

Li, on the other hand calls out matched filters (MFs), see paragraph 45. MFs are conventionally used for correlating an a-priori code with the receiver signal. This method and its shortcomings when applied to complex PN codes is noted in the present specification in

paragraph 0013. In addition, as noted by the Examiner, Li fails to teach or suggest, "that each generator of the plurality of Gold code generators comprises a first shift register having N stages and a second shift register having N stages." See Office Action page 6, point 10, ¶ 2.

Park has identified a PN sequence (code) generator. Not only does the present invention not use a local PN generator within the receiver, it does not use Park's code hopping. Code hopping as set forth by Park does not apply to the Gold codes and receiver as set forth by Applicant. To perhaps restate this, Park generates whereas Applicant receives without a pre-loaded generator.

A large number of devices may exist in the prior art where, if the prior art is disregarded as to its content, purpose, mode of operation and general context, the several elements claimed by the Applicant, if taken individually, may be disclosed. However, the important thing to recognize is that the reason for combining these elements in any way to meet Applicant's claims only becomes obvious, if at all, when considered from hindsight in light of the application disclosure. The Federal Circuit has stressed that the "decision maker must step backward in time and into the shoes worn by a person having ordinary skill in the art when the invention was unknown and just before it was made." *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566 (Fed. Cir. 1987). To do otherwise would be to apply hindsight reconstruction, which has been strongly discouraged by the Federal Circuit. *Id.* at 1568. Respectfully, "it is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious"; *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1141, 227 USPQ 543, 550 (Fed. Cir. 1985); *W.L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

"To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *W.L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983).

Therefore, without some reason in the references to combine the cited prior art teachings, with some rational underpinnings for such a reason, the Examiner's conclusory statements in support of the alleged combination fail to establish a prima facie case for obviousness. See, *KSR International Co. v. Teleflex Inc.*, No. 04-1350, 550 U.S. ____ (2007) (obviousness determination requires looking at "whether there was an apparent reason to combine the known elements in the fashion claimed...", citing *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness," *KSR* at 14).

To combine Park and Li would require the deactivation of the Park generator, which is clearly against the teaching of Park. Li's correlation of an a-priori code with the received signal is also fundamental to Li. To remove this would fundamentally alter the teaching of Li. **"If the proposed *modification or combination* of the prior art *would change the principle of operation* of the prior art invention being modified, then *the teachings* of the reference *are not sufficient* to render the claims prima facie obvious."** *In re Ratti* 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (comment added).

Moreover, Applicant respectfully disputes that any combination of these references will not spontaneously overcome the fundamental failings in both Li and Park to teach, suggest or imply, Applicant's present invention as set forth in either claims 17 or 22. As the prior art references do not combine to render obvious independent claims 17-20 and 22-25, Applicant respectfully submits that the Examiner has not made a prima facie case of obviousness for the elements of claims 18-20 and 23-25. Respectfully withdrawal of the rejection and allowance of claims 18-20 and 23-25 is requested.

CONCLUSION

For the reasons given above, and after careful review of all the cited reference, Applicant respectfully submits that the cited reference, does not teach or suggest Applicant's claimed invention.

In view of the above Amendments and Remarks, Applicant has addressed all issues raised in the Office Action dated November 28, 2007, and respectfully solicits a Notice of Allowance for Claims 1-9 and 13-26. Should any issues remain, the Examiner is encouraged to telephone the undersigned attorney.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

It is believed that no fees are due; however, should any fee be deemed necessary in connection with this Amendment and Response, the Commissioner is authorized to charge deposit account 504104, referencing the Attorney Docket Number 614602.9.

Respectfully submitted,

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